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ONTARIO

DEPARTMENT OF LANDS AND FORESTS

HON. A. KELSO ROBERTS, Q.C., MINISTER F.A. MACDOUGALL, DEPUTY MINISTER

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FISH AND WILDLIFE
REVIEW

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THE COVER

Our cover photograph by George S. Brown shows the entrance to the public fishing area created at Mount Pleasant Fish Hatchery Ponds near Brantford, now open to the public.

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EDITORIAL

Within the next few months, hundreds of thousands of anglers will be wetting a line in lakes and streams throughout Ontario. For some, it will be the first experience at fishing but, for the majority, it will be another opportunity to participate in one of the most cherished and popular forms of outdoor recreation.

Sport fishing in Ontario is undoubtedly one of the most valuable industries of the Province. Just how valuable it is, is impossible to say, particularly if one considers the wealth of the industry in its fullest context. In common parlance, value is usually described in terms of dollars and cents and, unfortunately, it is in these terms that it is most readily accepted by modern-day society.

How much are the sport fisheries worth to the people of the Province? Our economists, given the opportunity, could probably provide a fair estimate of the revenue derived from the industry. We know that approximately 400,000 non-resident anglers visit Ontario annually and that 2½ million dollars are spent on angling licences, alone. We also know, from the results of a household survey conducted in Ontario in 1959, that there are probably between 1¼ and 1½ million residents who fish at least once during the year. Estimates of expenditures for travel, equipment, and sundry items related to sport fishing could be obtained which, when added to the revenue from licence sales, would provide a reasonably accurate figure on the total monetary value of the industry. However, such an assessment would not be a complete account of the total worth of the sport fishery for without consideration of the many inherent recreational benefits, such as those associated with health, welfare and peace of mind to the individual participants, one would be neglecting the most important aspect of fishing. Although no realistic monetary value can be placed on these intangibles, they are nonetheless very real and should be recognized and included in any consideration of the total benefits attributable to sport fishing.

MOUNT PLEASANT PUBLIC FISHING AREA

by E.E. Persall
Hatchery Assistant, Mount Pleasant
(Photos by G.S. Brown)

The Mount Pleasant Public Fishing Area was established by the Department of Lands and Forests in 1962, utilizing the site formerly occupied by a Provincial hatchery. After some minor renovation to the existing seven ponds, expansion of parking lots, and the construction of washroom facilities, the area was opened to public fishing on May 12. The ponds were stocked with over two tons of perch, bullhead, sunfish, catfish and rock bass to initiate the project. The first weekend saw 1,005 enthusiastic anglers on the fishing area. Parking facilities were filled to capacity within three hours on opening day.

Largemouth and smallmouth bass were added to the roster of available fish in time for the opening of the bass season on June 30.

The public fishing area was operated from May 12 to September 29, and was open daily except Tuesdays from 8:00 a.m. to 8:00 p.m. No entry fee was charged, but anglers were asked to check out at a centrally located office to have their fish counted and weighed. Signs, designating the species of fish available in each pond, permitted some selection by anglers.

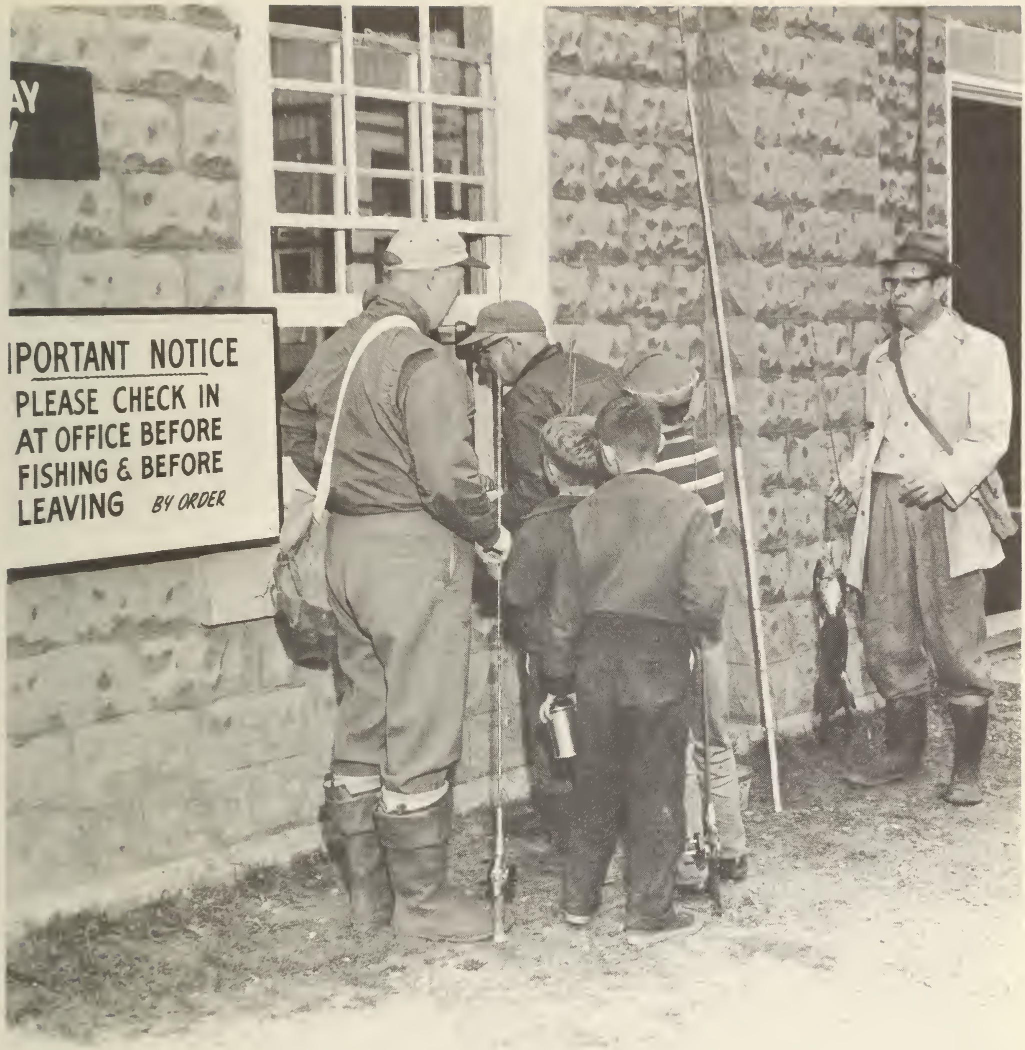
Over the season, 14,432 anglers visited the Mount Pleasant Fishing Area and caught nearly four tons of fish. About 53 per cent lived within an eight-mile radius of the fish area; this includes the City of Brantford. Anglers residing within a thirty-mile radius, including Hamilton, Kitchener, Galt, Woodstock, and Tillsonburg, comprised about 44 per cent of the total. The remainder resided more than thirty miles distant. One car had come from the Yukon, although not likely just to fish at Mount Pleasant.

Sundays were consistently the most popular days, averaging 250 anglers. Saturdays averaged 139 anglers. On weekdays, the number of anglers varied between 38 and 89, with Wednesday being the next most popular day. Opening day, with 530 anglers, was the biggest single day, followed closely by the Dominion holidays on May 21 and July 2. The length of time spent on the area ranged from two to three hours per trip.

The most obvious success of the experiment was the enthusiasm of the children of all ages and sizes. Many of them were experiencing their first fishing trip. With the inclusion of bass, and the odd trout left over from the operation of the hatchery as an attraction to dad, the fishing area became popular with family groups as well as with children who lived within cycling distance. Many requests were received for a picnic area on the site. It is expected that a small area will be set aside for this purpose in 1963.

A pen of exhibition trout, displayed near the entrance, attracted considerable attention. One youngster, about four years of age, walking proudly past the pen, suddenly threw his hook and line over the enclosure and just as quickly had it taken by a large rainbow trout. His distracted father quickly obtained assistance from the office and, upon returning to the enclosure, found a second child inside, fully clothed, attempting to retrieve a second rainbow which had been poorly hooked and was weakly swimming away.

Children were not the only ones who were carried away by the attraction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IPORTANT NOTICE
PLEASE CHECK IN AT OFFICE BEFORE FISHING & BEFORE LEAVING BY ORDER

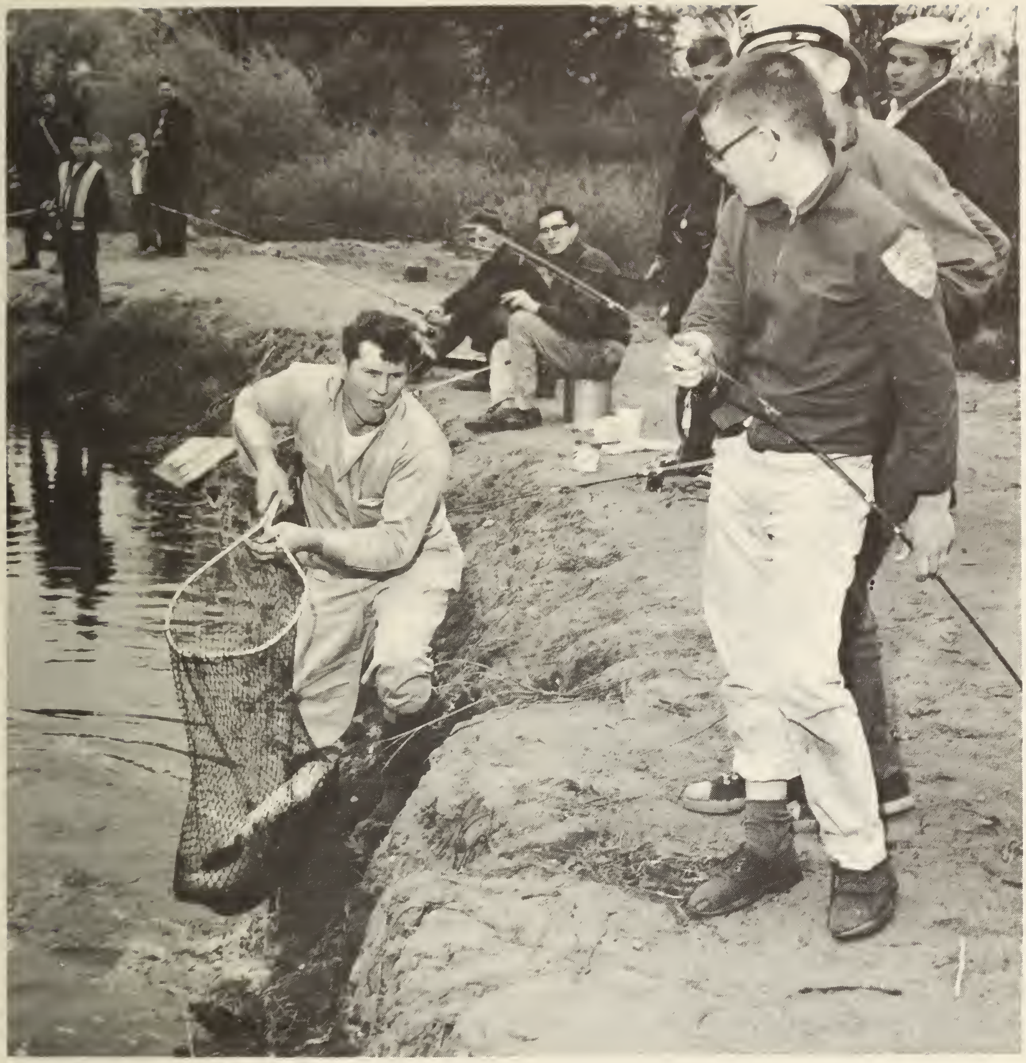
Anglers stop at office to report their catch before leaving Mount Pleasant area.

of large fish. One large brown trout, which had inadvertently been left in one of the ponds, so frustrated an adult angler by breaking his line that the angler took off across the pond, boots and all, in a vain attempt to retrieve the fish. Equipment, which became caught on rafts, constructed to provide shelter and shade in the shallow ponds, presented a problem to young casting-and-spinning enthusiasts. In most instances, these predicaments resulted in broken lines or bent hooks, much to the dismay and disgust of the young anglers.

An Indian Reserve, located nearby, produced some young anglers that astonished the pale faces. One Indian father, with his six children, came in frequently at opening hour and, though the fish were not always biting well for others, they could leave in an hour or so with their quota of bass and bullheads while pale face families on either side watched in amazement at their skill and the

Fish, sometimes sighted from shore, were not always easy for youngsters to take.

Young anglers circulated freely from pond to pond to satisfy their curiosity.



A large channel catfish made an impression on young and old, alike.

speed of their success.

Fishing equipment varied from sticks, with nuts and bolts for sinkers, to expensive spinning and fly-casting outfits. However, it was not always the most elaborate equipment which produced the most or the biggest fish. Fishing success was quite variable, depending mainly on the species of fish and the length of time which had elapsed since the last stocking. Often, some difficulty was encountered in securing sufficient numbers of coarse and pan fish to provide successful fishing for all anglers.

Encouraged by the success of the 1962 operation, as shown by the attendance records, the favourable comments by parents, and the satisfied, happy expressions of the many children, the Department plans to continue the operation of the Mount Pleasant Public Fishing Area on much the same basis in 1963.

WHY NOT HUNT CROWS?

by R.C. Passmore
Biologist, Fish and Wildlife Branch

For true enthusiasts of the shotgunning fraternity, the only thing seriously wrong with the world is that October is not 365 days long. The golden days of autumn speed by all too quickly. There never does seem to be enough time to take advantage of all the opportunities to hunt. All too soon, the woodcock and the snipe desert their local haunts for more southerly climates. The last of the northern puddle ducks move through, leaving only the hardy divers rafted on whatever open water remains. Raccoons will still offer some sport, and so will the rabbits and, in some years, the wily red fox. But fur will never provide quite the same thrills as feathers, and the deep snows of mid-winter soon make it apparent that it is time to give Old Betsy her final clean-up in preparation for that long repose on the gun rack.

When will there be opportunity to shoot again? Perhaps there'll be a few pre-season clay birds for sharpening up the reflexes, but the real thrills won't start until the leaves begin to turn again. For the died-in-the-wool shotgun enthusiast, the waiting will be tedious. The memories of the good companionship, the fine work of the dogs, the difficult shots that were made—and the easy ones that weren't—and the pleasant recollection of honest fatigue at the end of the day will hardly foster patience during the long wait.

If you actually do let your shotgun gather dust through half of the year, it is only because you haven't learned of the exciting challenge offered by a bird which is abundant, clever, sporty, a master aerialist, and whose taking is not restricted by closed seasons or bag limits. What is this bird and where do you find him? It is the crow, of course—old *Corvus brachyrhynchos* himself—and he is practically on your back doorstep from March until September or later, depending on latitude. In the extreme southwestern portion of the Province, the crow is a year-round resident.

From earliest childhood, we learn of attributes ascribed to crows—clever, cunning, destructive, heartless despoiler of the eggs and young of songbirds, master chicken thief and super intelligence who can figure out the location of each kernel of corn sown by the planter. Whatever the truth or fiction of these tales, the important thing about this raucous black braggard is that he is always spoiling for a fight, especially if he can muster enough of his buddies to make sure that it will be a one-sided affair. Learn to take advantage of this characteristic and you will gain some sporty shooting that can extend your shotgunning season almost throughout the year.* The secret of success lies in producing authentic—sounding imitations of the calls which the crows themselves use to muster their legions for battle.

Crows, being gregarious by nature, have a language which seems to be more varied and complicated that the few, simple calls which make up the repertoire of most species of birds. Spend a little time listening to their different calls and practising imitations on any of a number of the good, artificial calls now on the market. The most important call to learn is the "battle rally", used when one or more crows swoop on an owl, a cat or other enemy and attempt to drive it out of the vicinity. You will notice that this call appears to rally all the crows for miles around, sending them into a fever of excitement that overcomes their normally cautious instincts.

A second call of great importance to the crow hunter is the one which screams out "Help, help — I'm in trouble". Most of the crows in the neighbourhood will charge in to assist their stricken brother. The "help" call of an adult crow will bring results at any time of the year; but during late July and throughout August, the high-pitched call of a young crow pleading for help is particularly effective.

In my personal crow-hunting experience, there have been occasional, mortally hit crows that gave out a low, mournful call as they fell. It has never failed to bring nearby crows boiling into range. Some day, I'll learn how to imitate that call.

Perhaps the most commonly heard call of the crow is the rapid-fire "caw, caw, caw, caw" which says "Man with a gun — let's get out of here". You'll want to avoid imitating this one, for obvious reasons.

Editor's Note: In the counties of Ontario, the Summer Hunting Licence permits hunting during the period when the ordinary Hunting Licence is not valid. In the Territorial Districts of Ontario, there is no licence which permits hunting between June 16 and August 31, inclusive.

Listening for and learning to imitate some of these calls is the most important step in the development of a successful crow hunter. If you aren't able to learn them directly from the crows, there are good records which will allow you to do your listening and practising at home. These records are available from some of the same firms which manufacture and sell hand-held crow calls. For those who are willing to pay for a real short-cut to successful crow calling, there are electronic devices which produce authentic calls. Some hunters report very good success with electronic callers while others lament the fact that they lack the flexibility necessary to produce the right sounds to fit particular conditions.

Crows usually start northward while most of their food is still hidden under a mantle of snow. Locate a good supply of food — a garbage dump, dead livestock or a deer yard after a hard winter — and there should be a concentration of crows sufficient to provide a good shoot, especially in the very early morning. Later in the spring, and throughout the early summer, crows are more evenly distributed. A crow hunt during that period is more likely to be made up of a number of brief (up to one-half hour) stops in locations which permit calling in the crows within a mile or two of the blind. Later, when the young are flying strongly, crows become more gregarious, particularly with respect to roosting together at night. Hundreds of crows may roost in one suitable location which is reached by several flyways which converge on this favoured spot. Shooting within the roosting area, itself, might cause it to be abandoned. The hunter who locates an active roost and takes a late afternoon stand along one of the flyways, at a distance of a mile or two from the roost, should have several exciting evenings to look forward to.

Crows, which have been aroused to a fever pitch by good calling, don't seem to associate gunfire, or the sight of their falling companions, with danger — provided they don't see the shooter. A good blind, whether it be natural cover or a portable model made to look as natural as possible, is a necessity. Some experienced crow hunters go in for complete camouflage, even to darkening their faces, wearing gloves and painting their gun barrels. Experience and inclination will allow the individual to reach some suitable compromise in this regard.

No matter how good the blind or how deceptive the camouflage, the hunter is less likely to be seen if incoming crows are provided with some object which distracts their attention. The silhouette of a great horned owl will not only provide the necessary distraction but will add real meaning to the "battle rally" call. A pair of dead crows, tied together and thrown over the limb of a tree, will have a similar effect. The illusion of a struggling crow can be achieved by trying a string to one of the dead decoys so that it can be made to move and flap as though in distress.

Learn to call crows, use decoys, keep well hidden and you will be assured of some exciting experiences. There really isn't any need for your shotgun to go unused for half the year, after all.

Aquatic vegetation at Whitefish Lake, Port Arthur District. Photo by R. Boultbee. (See Page 10, inside back cover and back cover for other photos of aquatic plants.)

THE IMPORTANCE OF AQUATIC PLANTS

by C.H.D. Clarke
Chief, Fish and Wildlife Branch

Rooted aquatic vegetation may interfere with boating and swimming, but in the animal kingdom it is one of the most important environments. It is the place where land and water forms meet; and many valuable fish, game, and fur species cannot exist without it. In nature all "edges" are rich, and this is the richest.

A list of species using this environment includes moose, deer, porcupine, beaver, muskrat, otter, mink, ducks of many species, geese, swans, snipe and other shore birds, cranes, herons, bitterns, coots, gallinules and rails, frogs, maskinonge, pike, bass, especially smallmouth, and, in fact, most species of so-called warm water fishes. In winter still other species - pheasants, rabbits, foxes and the like - can use this environment.

All of this list can be explained - for example, I have seen a porcupine far from shore eating lily pads, and since then have often seen where they have been eaten.

Some species live wholly in the aquatic vegetation. Others live in deep water, or on land, and use the marsh or the lily pads or pond weeds for shelter at some special season, especially the breeding season. Some species live out and feed in, because the vegetated area is rich in life of all sorts, as well as plants. Some live in, and hunt out, using the plants as a foraging base. Some are wholly dependent, some less so down to only slightly. In general, if you remove the plants, you remove the animals, in whatever degree they are dependent. There will be so much less in the lake. It is most unlikely that there will be more of anything. A marsh environment with the plants forcibly removed is likely to be merely an unproductive marsh environment.

We are in the position in southern Ontario that the demand for ducks and duck shooting and for maskinonge and bass is much greater than the supply. We also need the production of lesser game and fish. Therefore, we are extremely jealous of any procedure which can have only one effect, namely, a permanent reduction in our capacity to produce. The private owner or developer who wants to remove the plants from the public water may think that he is simply doing gratuitously what the Crown might well do for him, but in fact his private interest has to be measured against a public interest in bass or ducks. If so, he should be able to look forward to the day when a private interest in clearing or filling all marshes has become established, and tell us why we should not cry "halt!" with himself.

Seventy and eighty years ago, about the only positive step in game management that had any public support was planting aquatic plants. Wild rice has been sold and traded around this countryside for that long and perhaps much longer. Actually wild rice is a difficult plant to grow, but some of the reverence in which its magic properties are held by the Indian has rubbed off on the white man, and he has spent fortunes planting it. Some new areas and some mixing of the breed, has resulted from this activity. The sellers have made money. From wild rice it is but a step into the merchandising of other aquatics. Let him who wipes out a stand of wapato duck potatoes or whampee duck corn ponder that it may have cost someone

When the giant burreed turns brown in the fall, its seeds separate and become available as food for wildfowl. Photo by R. Muckleston.

five hundred dollars to put it there.

Vegetation of all kinds can be managed to do a better job of producing - whether it be crops, wood, or food and shelter for game and fish. The growth of aquatic vegetation is a stage in the endless process of aging of lakes, and the establishment of pioneer plants of water lily and pondweed make it easier for more species to follow. The trend is towards dry land - a sort of pondweed to cattail to sedge to spirea to willow to poplar to cedar to spruce to beech and hemlock. In many areas the process is slow and the lily pads last a lifetime. Elsewhere it may not be so, and we may find that it is highly desirable to hold as close to one successional stage as possible.

In the past this has been done by burning and mowing. Selective chemical control, either of species or of areas has been actively tested and has its uses in fish and game management. Muskrats themselves, with their capacity to clear and deepen areas within a marsh, are valued in management. However, in all such management plans, the absolute requirement is that the desired vegetation shall develop. If the effect is no vegetation at all, then that is not management.

Certain activities of man have killed off aquatics unintentionally. Certain forms of pollution that many fish might tolerate will kill plants and thereby remove cover for fish. Birds, especially, will tolerate pollution that will kill their food and cover plants. Some aquatics, as wild rice, thrive only where there is plenty of oxygen, and miles of rice beds have died out through the rotting of excessive amounts of organic matter. Dredging and filling have destroyed vegetation, and altered currents so that beds have been wiped out. In fact, there has been a constant reduction in this type of habitat since settlement. Only rarely, as in the new Seaway Lake St. Lawrence, are new marshes formed, and even there, there is a prospect of drawdown. Most impoundments that would otherwise have created marshes have drawdowns that turn their shores into biological deserts. Of course, the original marshes are destroyed by flooding.

So it goes. We are still losing too much of this valuable habitat to say, "What we have we hold", with any conviction, but do not be surprised if we give it a good try.

FUR TRAPPING IN ONTARIO

by H.J. Gibbard
Fur Biologist, Fish and Wildlife Branch

To the average citizen, the fur industry, and particularly trapping, is generally conceded to have been a major factor contributing to the early exploration and development of Canada. In other words, trapping is relegated to the romantic past.

However, such is not the case. In Ontario, alone, there are close to 9,000 trappers. Of these, about half depend on trapping for their livelihood. Many of these, particularly in the far north, still trap and live off the land much as their forefathers did.

To many of the Indians of the north, a trapline is more than a source of income—it is a way of life. This complicates any attempt to evaluate trapping in monetary terms. Another complicating factor is that they live, to a great extent, off the land. It was estimated, for example, that at Winisk, on the southern shore of Hudson Bay, meat cost about $1.00 per pound. It was further estimated that the annual value of meat taken from a particular trapline, averaged over a seven-year period (1949-1955), was just under $3,000. It is not clear whether this estimate is based solely on the kill of birds and big game for to the Indian trappers, a beaver represents not only a pelt but also 20 pounds of meat.

Even aside from the above considerations, the raw pelt harvest in the 1961-62 season is estimated at something just over 2½ million dollars* for Ontario. Values of the Ontario garment industry, based on the wild fur of this Province, are complicated because of the fluctuating values of the finished products and the balances of exports and imports and re-exports. However, the added value of the skilled labour involved in making garments within the Province, of Ontario wild fur, adds substantially to the overall picture. All this simply means that trapping in Ontario forms the roots of an industry worth over three million dollars, besides providing substantially to the food supplies of many of our rural and northern citizens.

In terms of total production and total value, Ontario leads the Provinces of Canada in fur production. Our beaver are harvested in quantities second to none, as are fisher, mink, otter and raccoon, while the marten harvest is exceeded only by the Northwest Territories and occasionally, by British Columbia.

It should be obvious that wild fur is an important natural resource, so what is being done about it?

In the early stages of trapping, as with many other resources in the early development of the continent, it was a case of "first come, first served". This led to rivalry and even bloodshed between fur traders, and probably between trappers. With lack of controls, this inevitably led to exploitation or "mining" of the resource. This in turn brought about government restrictions to protect threatened species, thus introducing a new phase in the management of fur-bearing animals. Progress in fur management beyond the restrictive enforcement of open and closed seasons has come about only in the past twenty or thirty years.

The first steps in this direction involved the setting aside of special

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* Based on average prices paid at North Bay Fur Auction Sales.

Indian hunting areas in which no trapping by white men was allowed, thus removing some of the more dangerous competition. In Quebec, extensive beaver preserves were established, and the Indians were taught to harvest the beaver on a rational basis and to handle the pelts properly. A similar procedure was followed, shortly thereafter, in setting up preserves in Ontario.

The registered trapline system was developed in British Columbia between 1924 and 1932. It is based on the government's recognition of an individual's rights to trap a certain area. Registered traplines are now well established, in one form or another, in several Provinces.

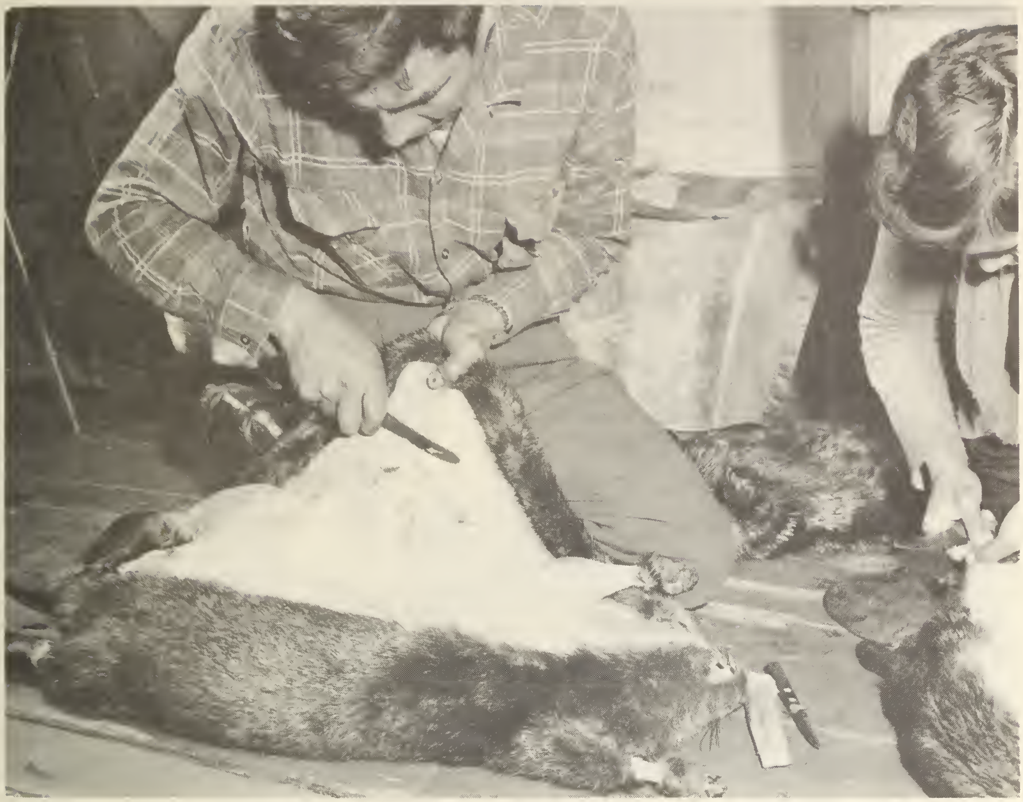
First registration of Ontario traplines was in 1935 and, in most places, surveyed townships were assigned as trapline areas. This facilitated administration to some extent, but was not an ideal arrangement for management or for the trapper. More explicit trapline boundaries now follow natural physiographic features such as streams, lakes and ridges of hills. This allows the trapper to cover his ground much more easily and results in a more evenly distributed trapping pressure. Natural trapline boundaries are easily discernible, leaving little excuse for border disputes, as well as being more meaningful in terms of animal populations.

The Indian Affairs Branch of the Department of Citizenship and Immigration is concerned with natural resources (particularly fur) because of the dependence of Indians upon these resources. Dominion aid in fur management began in Manitoba in 1936 and has since expanded rapidly to nearly all the Provinces. There has been a Dominion-Provincial agreement in Ontario since 1950. The current agreement, made in 1962, provides for assistance to Ontario of up to $100,000 per annum with similar expenditure by the Province. The new agreement, however, provides for expanded endeavor, particularly into the field of fisheries resources, as well as fur resources. Its terms provide for biological investigations and management practices to be carried out in areas where there will be particular benefit to Indians.

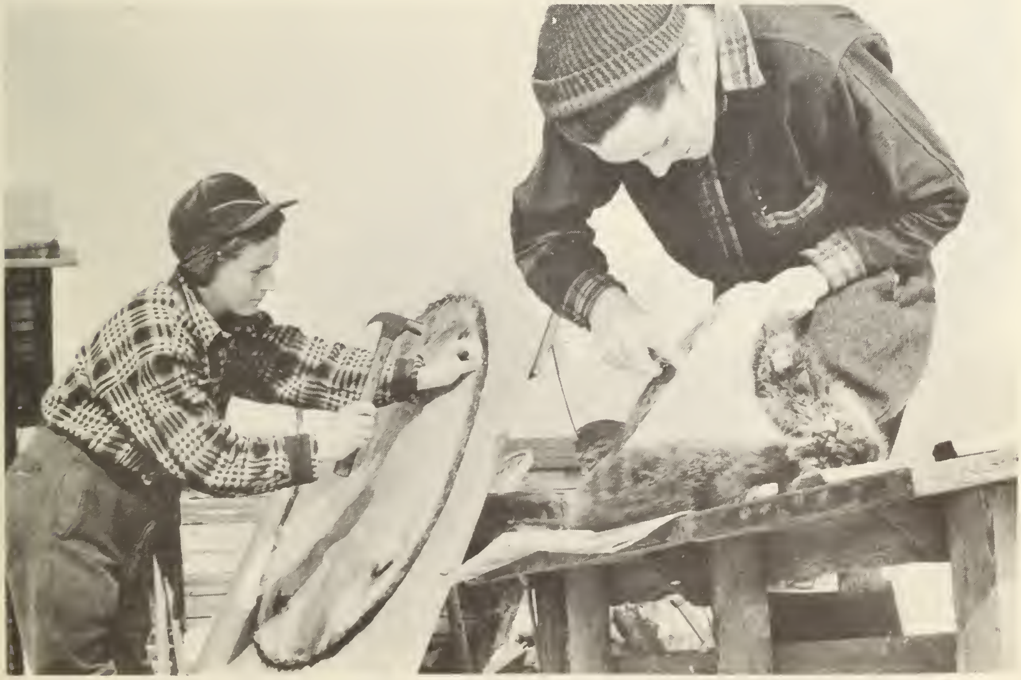
Licences for registered traplines are renewable annually as long as the trapper meets the conditions of the regulations and continues to trap. The trapper has a vested interest in his trapline, and the knowledge that he will reap the benefit is an additional incentive to him to manage his line soundly, to build good cabins and clean his trail system regularly. In other words, a trapline is comparable to a farm.

In agricultural southern Ontario, in particular, there are also resident traplines. These traplines are enclosed within the boundaries of townships or counties and are trapped by a number of resident trappers who arrange among themselves what area they will trap (within the boundaries) and make their own arrangements with the farmers on whose land they wish to trap. Some of the trappers in this group do not depend to any great extent on trapping for a livelihood but trap part time out of interest or enthusiasm, as a hobby, and to augment their regular income. They are farmers, mechanics, clerks and professional people. Resident trappers, however, account for a significant proportion of the provincial fur harvest.

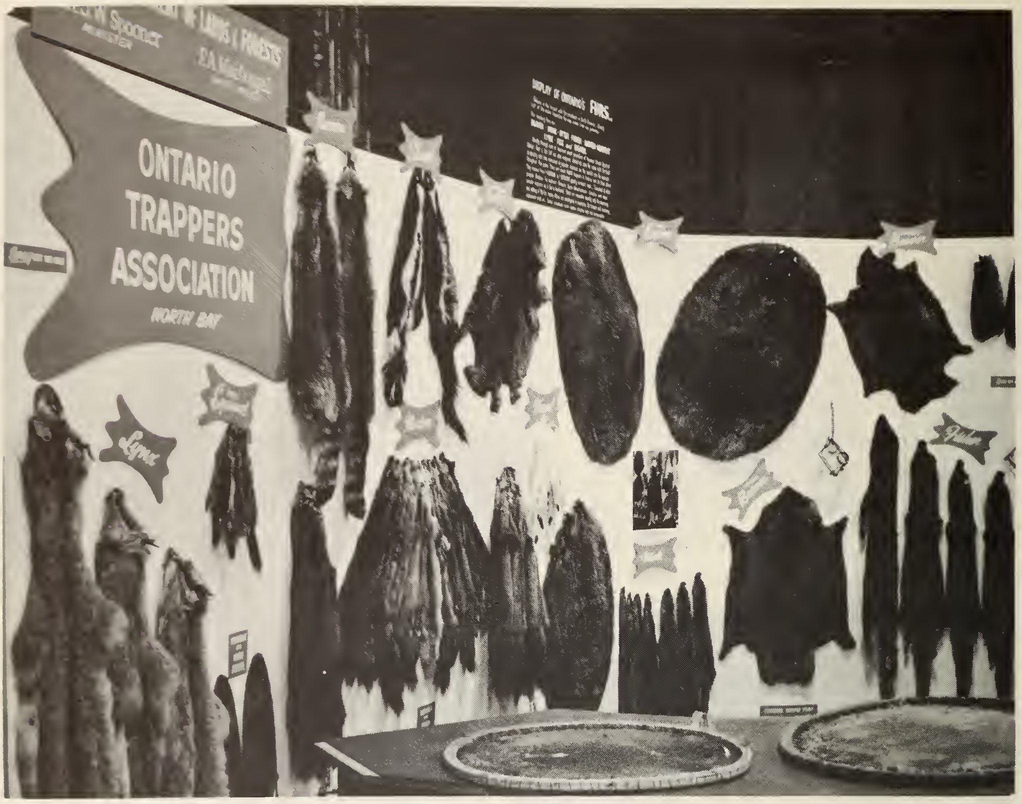
The major objectives of fur management are to harvest the fur crop on a sustained yield basis (i.e., to crop the annual surplus), improve the habitat, and improve pelt quality to realize full



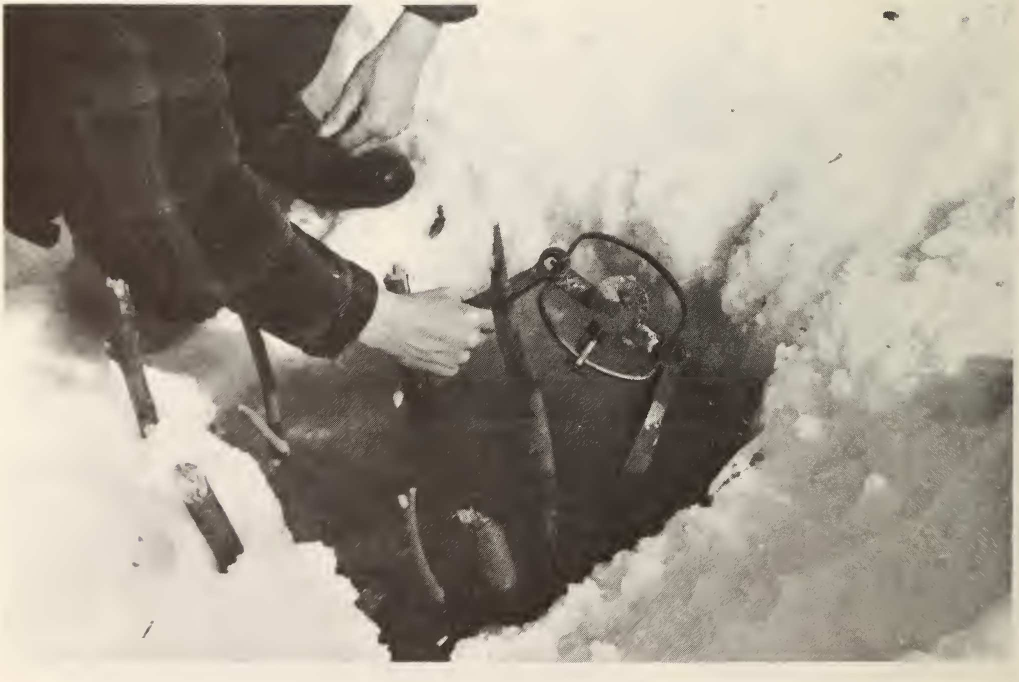
Bone scrapers, similar to the two visible in this photograph by G.S. Brown, are still used by many Indian trappers.



Skinning beaver and nailing pelt on board-type stretcher. Photo by K.M. Andresen.



A proud display of Ontario wild furs. Note the beaver skins on hoop-type stretchers on the table in front. Photo by G.S. Brown.



Putting a beaver trap into a pen bottom-set. Photo by K.M. Andresen.

value from the harvest.

Better pelt quality depends not only on careful pelt handling and preparation, but also on humane trapping. The good trapper is well aware that the faster an animal dies the better the chances its' pelt will be undamaged and, so far as possible, sets his traps in a manner consistent with this aim. All sorts of so-called "humane" traps have been invented, but so far only one, the Conibear trap, has proven practical and grown in popularity. It is comparatively light, efficient, and kills instantly.

Restriction of the trapping season (and hence the total catch of furs) is the most obvious approach to control of the harvest and, therefore, was the first method to be applied. More recently, quotas were introduced to regulate the take of certain species. By using the quota system, the total harvest is regulated through the regulation of small areas (traplines) and even, in the case of beaver and muskrat, through the regulation of the number of animals taken from a lodge or house. This is a much more realistic control and can be adjusted to suit the requirements of specific areas. A beaver quota of one per colony, while a population is low or increasing, can be adjusted up to three beaver per colony at high population levels. This system allows beaver to increase to the carrying capacity of their range, and then permits the trappers to remove the annual surplus. Due to the difficulties of measuring fisher, marten and mink populations, apportioning quotas to individual trapping areas has not been very successful with these species.

An ever-present problem, but an important management tool, is the setting of the seasons so that the majority of the animals are caught in a condition as close to primeness as possible.

Live-trapping and transplanting techniques have been used in the restoration of beaver, marten and a few fisher. When depleted areas are restocked and the introduced animals afforded proper protection, the increase and spread of the population can be accelerated. Ontario, as well as other Provinces and States, has had good success with beaver transplanting, while Ontario's marten re-stocking program has had at least some success.

The only large-scale habitat improvement for fur-bearers, that has been carried out in Ontario, is the improvement of muskrat marshes in the south. Very high yields of muskrats have been obtained through the control of water levels to improve marshes and through ditching to further raise the muskrat carrying capacity.

A method of obtaining annual indices of changes in beaver populations by aerial census was devised by our research staff and, very recently revised and improved. This technique not only allows for the counting of beaver lodges, the results of which can be compared from year to year, but relates live beaver lodges to: foodpiles, number of bodies of water, total area, number of dead lodges, and timber type. Relating the foregoing observations in different ways can give different aspects of the information valuable to management.

The determination of age of trapped animals is one of the most promising tools the wildlife manager has for assessing the population dynamics of any species. We can learn whether a population is increasing in numbers, static, or on the decline. For some time now, we have been able to age fall-caught muskrats by examination of the priming pattern on their pelts. We have now developed an aging technique for beaver, using the characteristics of the growth pattern of their cheek teeth.

Combining the age information we have collected from certain populations with other information gathered from the same animals, such as sex ratios, pelt sizes, weights and habitat conditions (food, cover, etc.), we are making some very interesting discoveries about beaver populations living under a variety of conditions. Such information has practical management value in making it possible to predict what will happen to these populations under various trapping pressures, and vice versa, being able to say what trapping pressure should be exerted.

It stands to reason that the government can only do so much in terms of management and that the actual results of management should largely be gauged through the interest, understanding and the improved production of the trapper, both in quality and quantity.

Trappers, who have an understanding of the basis for setting open seasons, often set their own season well within those set by regulation to obtain pelts in the peak of primeness. The handling of pelts has improved greatly. Trappers are finding that properly degreased, well-stretched, correctly dried pelts bring premium prices. Better scraping knives, stretchers and other implements for handling fur are now readily available.

A renewable natural resource, such as fur, cannot be stockpiled. It is, therefore, of little value to Ontario if it is not harvested. In fact, at least two of the most important species, beaver and muskrat, may die off in great numbers due to depletion of food supplies and disease epidemics if they are not trapped to keep their numbers in control. Trappers, however, cannot be expected to trap out of concern for the loss of a natural resource—they must make a living from it. Furthermore, if Ontario's prestige on the world fur market is to be maintained and improved, the trapper must be paid premium prices for premium pelts. The Department of Lands and Forests, in recognition of the inseparable relationship between managing the resources and marketing, has assisted the Ontario Trappers' Association in setting up the North Bay Fur Auction Sales. This provides the Ontario trapper with a competitive market at which he may sell his fur if he so desires.

With increased harvesting of the natural resource, the residents of Ontario, as a whole the shareholders of this business, have also obtained their share of the direct profits as increased revenues from royalties on pelts of fur-bearing animals are received. For example, the total royalties received in the 1961-62 season were $223,870.

As shareholders of vast resources, it follows that the residents of this Province should have some knowledge of their "stocks". This article was written with the hope that it will evoke interest in, and promote some degree of understanding of, this oldest of Canadian inland resources.

REFERENCES

de Vos, Antoon and Alexander T. Cringan 1957. Fur Management in Ontario. Canadian Geographical Journal, August. 16 pp.

Dominion Bureau of Statistics, Agricultural Division, Livestock and Animal Products Section. Fur Production. Annual Reports, Cat. No. 23-207.

Leibow, Elliot and John Trudeau. A Preliminary Study of Acculturation Among the Cree Indians of Winisk, Ontario. Arctic, Vol. 15, No. 3, September, 1962. pp. 190-204.

THE PURPOSE AND MEANING OF ENFORCEMENT

by E.L. Skuce
Senior Conservation Officer, Lake Erie District

Enforcement of conservation legislation means much more than the processes of justice after the law has been broken. It is the process of persuading people to carry out conservation plans.

With the increasing numbers who hunt and fish, with the vast industries which are developing through the use of natural resources, and with the many land uses which compete with wildlife, we find that more manipulation, more control and more conservation measures are necessary; but, unless everyone concerned understands their basis and has a desire to support them, they will be ineffective.

We must ensure that these measures are carried out and, in my opinion, this is what should be termed enforcement: the carrying out of conservation programs. As a result, our program of enforcement requires sincere study and research to keep up with essential management plans. There is a responsibility on the part of all hunters, anglers, scientists, administrators and officers to develop an atmosphere of persuasion to obey.

In the conservation of our natural resources, there are many different obstacles, but one which hinders our progress is the obstacle of people who have no regard for the regulations. These are the people who have not yet been convinced that adherence to the rules will benefit everyone.

This hindrance to our job of managing a resource is one which we have been dealing with for many years. Some progress has been made toward cutting it down to a level at which, at least, the people who break the regulations do not change the results of our plans significantly. I suppose we might look upon this as a very worthwhile accomplishment and I wish we could say this about all the obstacles we encounter in wildlife management.

In my opinion, enforcement is not merely the apprehending of someone who disobeys legislation intended to further a wildlife management program. I look upon it as the process of encouraging people to carry out conservation plans and policies for the benefit of all. Programs of conservation cannot be fulfilled merely by making regulations. Granted: good laws and regulations come about only after long and earnest research and, at least in theory, after they have been requested by the general population, since they are passed through regular democratic processes of law-making.

In practice, many laws have little to do with programs of conservation until their supporting regulations are made. As contained in the statutes of a Province or State, the game and fisheries laws merely provide the statements of penalties for non-compliance; unfortunately, they do not inform us of the potential rewards for obedience to the legislation.

There is the additional thought that plans and policies, as well as legislation, are more or less useless unless they are known and understood by all who may be concerned with them.

A regulation may read: "No person shall kill an eagle, and any person who violates this rule shall be penalized not less than ten dollars." If the officer does not know why the eagle should not be killed, he is in a poor position to enforce it intelligently.

Similarly, the offender, even if he knows the law, is less likely to obey it if he does not know the reason why it was put into effect. If these two points of view could be aligned, we would not hear as frequently as we do now, the statement from a game and fisheries endorcement officer: "I don't make the law; I only enforce it." In this example, it might well be that the offender would be fined for breaking the legislation and the officer could be said to have done his part, but is this truly the most desirable course of events? An officer should never be in the position that he only looks for violators, and he should realize that he will never bring about the co-operation of people simply by assisting in imposing penalties.

The true purpose and meaning of enforcement is the carrying out of wise conservation plans, and there can be no separation in our efforts. I can find no place in our programs for the statement, "I have no part to play in enforcement of the regulations; I only assist to make the law," or its inverse, "I don't make the law; I only enforce it."

More recognition of the actual purposes of conservation plans and rules could be given to the public. We often read news releases, advising the people to obey the laws and avoid the fines. The press emphasizes the penalties that a law violator faces with headlines, such as "Resident Fined $100.00", followed with the story of his fishing gear being seized and all the trouble he is in, finally stating: "It is said that he was found in possession of 100 speckled trout". Reports of this kind tend to create public sympathy for the person who was unfortunate enough to be apprehended. It does little to increase our knowledge of the actual damage done by taking 100 speckled trout from the newly developed fishing ponds.

On the other hand, a headline, "New Public Fishing Project Receives Set-back, One Hundred Trout Killed", would have a different impact, especially if it were followed with the information about the project. It would also be helpful to include a statement along this line: "It is said that a passerby became suspicious when he noticed someone using a net in the ponds. A Conservation Officer was alerted and the person was apprehended with 100 trout and a gill-net". A story of this kind would improve public appreciation of the management plans and the damage wrought by people who oppose them.

A child may be told not to pull the cat's tail because of the danger of being scratched. Very likely, the cat's tail will be pulled, however, and, possibly, the child will be scratched. The child may be wiser but, more likely, the cat's tail will be pulled again in a more abrupt manner and in such a way as to avoid the scratch, with the result that the cat will be hurt even more than previously. If the child had been taught why it should refrain from hurting the kitten, I am sure there would have been better results.

If we are to teach people in our area the necessity for management and the benefit of assisting in conservation programs, we must carefully teach the various regulations and, more particularly, the reasons why they are necessary.

We should not endeavor to place the whole responsibility on a person who pleads he did not know the law by telling him that ignorance of the law is no excuse. A plea of ignorance should be a signal to us that our teaching has not reached everyone.

The manager who insists on discipline according to the book, and who refuses to hear other views, provokes

Conservation Officer D.J. D'Agostini and a trapper examine an illegal trap set by poachers. Photo by K.M. Andresen.

Conservation Officer T.L. Beck removes one wing from ducks (shot and brought in by hunters) for sex and age determination. Photo by G.S. Brown.

Conservation Officer K.J. Tolmie checks hunting licences. Photo by R. Muckleston.

dissension. We must teach the moral attractiveness, the virtues, the innate benefits of the law. This can be accomplished only by a definite plan of action.

First – We must assure through research that the programs are wise and in the best interest of conservation.

Second – To eliminate the desire to disobey after the laws and regulations have been made, we must be sure that people understand the reasons why they were established.

Enforcement must commence with these two foremost parts of our conservation program. Enforcement must be carefully mixed with all other ingredients of the whole program. It cannot be merely a clause or a postscript added to the management plans, like a penalty clause attached to a regulation.

Third – We must have education programs to keep the people informed of the progress that is being made and the benefits that are being enjoyed because of the laws and regulations in effect.

Research must continue, and programs and policies must stand the tests of use. The removal of outdated measures is very important. For example, we might provide a quota of ten beaver to a trapper and, when the population of beaver on his trapline increases to hundreds, it may no longer be reasonable to have such a regulation. In such a case, it should be removed promptly. Again, it may be wise to provide some type of game sanctuary but, if the area eventually falls within the limits of a city, the days of the sanctuary's usefulness will have been outlived and the regulations concerning it should be removed. Too often, our laws are not kept up-to-date with the progress of our research program. This certainly does not encourage good enforcement. The people concerned and the officers, who must enforce the laws, lose respect for the legislation.

Fourth – We must place before Justice the persons who disrupt the conservation plans, endeavoring to have them realize the reason for the law and, if possible, we should endeavor to win their respect to such a degree that they will come back to

Conservation Officer P.W. Swanson tells young people about wildlife and explains why regulations are necessary. Photo by K.M. Andresen.

assist with the conservation plans.

We cannot suggest any reduction in the necessity of applying penalties. This is still, and probably always will be, an important phase of enforcement and therefore of conservation measures. However, we must try to reduce the numbers of people who disobey because of lack of interest or lack of understanding.

For example, commercial fishing regulations may provide that only a certain size of mesh of gill nets may be used. This regulation will doubtless have been made in order that fish of certain sizes and year classes would not be taken, so that the species will survive and propagate. The operator who has been advised only of the penalty for non-compliance may decide to take the chance and break the law. In doing so, he may well upset the program and damage the entire industry. In such a case, there is every necessity of applying suitable penalties to the offender. On the other hand, with proper understanding of the innate benefits of the regulations, many people would take great pains not to break the rules which, in the final analysis, have been enacted for their own benefit.

Penalty must not be the first application in our enforcement program; neither should it be the last. We should continue our efforts to win the co-operation of the violators by making them understand fully the necessity for the rule.

The fifth step in our plan of action in enforcement would be a review of the four stages just outlined:

1. Was the research good?
2. Were the people properly informed?
3. Did we advise the people of the progress made as well as the difficulties encountered?
4. Was justice properly administered?

These reviews will assist in deciding where our efforts should be increased. Too much emphasis on one sector, at the expense of the other, may be dangerous. Reviews will show up the short-comings and the weaknesses in our plans and regulations, and we shall be in a better position to find support for the conservation measures in effect if they are sound.

It is evident that enforcement must become something of a science. Our plan of action and teachings must be reflected in the behaviour and attitude of the people toward conservation. Their actions and attitudes will show whether they have gained full knowledge of conservation plans, or whether the laws in conservation of fish and wildlife are only considered wise when an officer is near and mean little when his back is turned.

In this paper, there were endeavors to provide definitions for enforcement of conservation measures:

1. Insuring the fulfillment of conservation plans;
2. Bringing about a will of the people to carry out conservation plans;
3. Management plus support implies enforcement ($M + S = E$.)

"Compelling obedience of the rules" is another definition of enforcement. This definition has something that seems unsuitable for enforcement of conservation measures. It is difficult to say we will *compel*. However, compel could be said to mean drive; therefore, if we wish, we could have the fourth definition:

4. Organized drive toward obedience of the rule.

It has been emphasized that the drive toward obedience must include a program of persuasion by education. Education to bring about good enforcement must commence with our research, and hunters, anglers and all users of wildlife must study and follow every stage of our plan of action. It is only they who can ensure the fulfillment of conservation plans.

All who reap values from wildlife resources must accept the responsibilities of making and recording observations, of making sound plans, and of developing a will to provide for wise and fair use of these natural resources.

Thus, in making our plans for enforcement, it is necessary to consider the fact that compelling obedience to the rules is incomplete and temporary; whereas obedience, developed as an outgrowth of the natural moral tendency to do the right thing, is complete and lasting—enforcement by will rather than by compulsion.

THE GOOD OLD DAYS

by D.N. Omand
Supervisor, Wildlife Section

We have all heard the stories of old timers who tell us that hunting and fishing have fallen on evil ways in latter years, and that the days of game and fish in plenty are gone and will never return. There are photographs in plenty of strange, solemn looking men in moustaches and broad-brimmed hats, with immense quantities of game strung along wires, leaving no doubt of their prowess as hunters and trappers.

How much of this is sheer rosy reminiscence—how much may be attributed to abundance of game? Let's look at a record written by John Noyes who was a member of the Oneida Community in Upper New York State. Noyes was an ex-clergyman who headed the social experiment which flourished there in the mid-1800's. The community developed methods of silver plating tableware which were immensely successful and, by this and other inventions, made a great deal of money.

The community members regularly made expeditions into Canada to hunt and trap. These were reported in Sewall Newhouse's "Trapper's Guide", printed a hundred years ago. Noyes, a truthful man, has inserted a section which he calls "Mirages of the Sporting World." The following is a quotation: "For one, I confess that ever since I was ten years old I have been seeking from time to time, in all directions and by many wearisome excursions, for that paradise of sportsmen where one can bag the nicest game in any quantities 'as fast as he can load and fire,' or where he can catch bass or trout of any desirable size 'as fast as he can put in his hook;' but I have never found it! The exact spot has been pointed out again and again by very credible informants; but always, when I have reached it, there has been some mistake about it. Either I had come a few days too soon, or a few days too late; or the desired region

Left: an old logger camp, similar to the one occupied by the Noyes party at Salmon Lake (now Limerick Lake, north of Madoc) in 1865. Both photos from Historical Section, Lands and Forests Photograph Library.

"There must be some life in these woods beside us."

was a few miles further on, or off to the right or left, or even back of where I started; or somebody had got in before me, and had just disappeared with the load of luck that I expected; or the weather was wrong; or I had not the right kind of tools and tackle."

This has a very familiar ring to it. He has some pungent words about the people who perpetuate these stories.

"The illusions that cover the sporting world come mostly from the inveterate bragging and exaggerations of sportsmen themselves. The old hunter tells all he can, and more than he can truthfully, of his exploits; and says as little as possible of his failures, and the miseries which his successes cost him. Thus the mirage rises, and they who are deceived by it, in their turn, learn to brag of their exploits and conceal their failures; and so the deception passes on from man to man, and from generation to generation."

Noyes' expedition went into the country north of Madoc on the old Hastings Road in September, 1865. Apparently, they intended to live off the country. They brought salt for preserving quantities of trout which they would spear off the spawning beds. Bass could be taken in quantity, and they agreed to kill about twenty deer for the winter supply just before freeze up.

Full of confidence, they set off into the bush but soon found that none of the stories had any basis in fact. Before they came out, they "had found it necessary to borrow meat of our neighbours, the lumberers, and were about to send to Montreal for a barrel of mess-pork."

"'To cut the matter short, What did you shoot'? I killed a partridge and a pigeon.* Mr. Pitt killed several red squirrels (which, cooked with some dried beef for want of salt, made an excellent stew). John P. killed some squirrels and a partridge. Mr. Hutchins killed a skunk. Besides these, we hit several paper marks, and some we did not hit. This is a true account of our hunting and fishing down to the time of our 'change of base' and my departure for the States."

The truth of the matter is that a great many species of native game and fur are more abundant today than they were a hundred years ago. Beaver have reached levels of great abundance in southern Ontario, so much so that they have become nuisances and one county pays a bounty on them. The logging of the Pre-Cambrian Shield and subsequent fires created conditions which enabled deer to increase in abundance and establish themselves in country they had never invaded before. Moose populations are flourishing, and bears have their periodic fluctuations in population level, apparently unaffected by the encroachment of mankind.

There are, of course, major differences in the conditions encountered by hunters and anglers in these days. The game and fish must be shared out among a great many more people than was ever the case before. Transportation has undergone a revolution which no one could have predicted. Today's Sunday drive was a three, or four-day expedition a hundred years ago. Thus, the hunter and angler can now penetrate parts of the country that were virtually untrodden by humans when Noyes was making his comments.

Nevertheless, contemporary evidence makes it clear that the golden days of old are largely mythical. As Winston Churchill said when someone remarked that things weren't what they used to be, "They never were".

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* Probably the passenger pigeon, now extinct.

Wild rice: an excellent duck food but hard to propagate. Photo by R. Muckleston.

THE IMPORTANCE OF AQUATIC PLANTS

A white waterlily may shelter fish beneath its big leaves and its seeds may be used as food by ducks. Photo by E.G. Hunter. See story inside on Page 9.